

**Annual Five Year Review Progress
Marshall Landfill
Boulder County, Colorado**

Brief site history:

Marshall Landfill contains 160 acres in the foothills of the Rocky Mountains, three miles from the City of Boulder. From 1965 until 1974, the site accepted municipal waste, unstabilized sewage sludge and many unknown, potentially hazardous, wastes. In 1981, a county inspector reported seeps from leach collection ponds were flowing into Community Ditch, which conveys drinking water to the City of Louisville and irrigation water to eastern ranches. Subsequent studies identified high levels of benzene, trichloroethene (TCE), tetrachloroethene (PCE), barium, iron, manganese and zinc in surface and shallow ground water. The site was listed in 1983 and the parties responsible for clean up are the City of Boulder and Browning-Ferris Industries (now Allied Waste).

Key components of the 1986 Record of Decision:

- , Ground water collection and treatment
- , Regrading and revegetating of the Landfill
- , Drainage and treatment of leachate lagoons
- , Installation of a pipeline to convey drinking and irrigation water

Current status:

The Landfill closed in 1991 and construction was completed in 1993. In August of 2001, the responsible parties submitted a proposal to terminate ground water treatment. The Five Year review noted that additional monitoring activities would be necessary to demonstrate protectiveness after the discontinuation of ground water treatment.

Summary of protectiveness :

The remedy is progressing as expected, and remediation standards for treated effluent discharge for the water treatment plant are consistently met. The remedy as designed, constructed and operated is protective of human health and the environment. The off site migration of contaminated groundwater has been controlled by the successful operation of the ground water collection and treatment system. Effluent from the water treatment system consistently achieves the remediation standards.

Issues that affect protectiveness:

No issues were identified that presently impact the protectiveness of the remedy. However, several minor maintenance issues were identified. In addition, issues concerning the discontinuation of ground water treatment as it may impact future protectiveness were identified. For the status of these issues, refer to the following summary table.

**Marshall Landfill
Five Year Review Summary Table**

Issues	Recommendations	Follow -up Actions	Responsible Party
1. Soil cover maintenance	Continue active efforts to maintain and improve landfill vegetative cover.	Scheduled for November 2002.	PRPs
2. Vegetative Cover Maintenance	Continue active efforts to maintain and improve landfill vegetative cover.	Scheduled for November 2002.	PRPs
3. Limited Signs to discourage trespassing on landfill cover	Post additional signs around landfill, continue to monitor public access to Site.	Scheduled for November 2002.	PRPs
4. Failure to report results for some monitored constituents	Review monitoring plans and correct future request for analyses to include all planned water tests.	Will be addressed in the revised monitoring program implemented in the Fall of 2002.	PRPs
5. Detection limits reported for some monitored constituents in recent Offsite Water Quality Monitoring Reports are higher than relevant standards	Review remediation standards and relevant water quality standards and implement sample analysis plan that provides quantitative data for comparison to the numeric standards.	Will be addressed in the revised monitoring program implemented in the Fall of 2002.	PRPs with EPA approval
6. Protectiveness of remediation standards is in question	Perform additional surface water sampling and analysis to demonstrate that beneficial uses for Lower Cowdrey drainage and South Boulder Creek are protected; propose point of compliance for monitoring offsite surface water quality.	Will be addressed in the revised monitoring program implemented in the Fall of 2002.	PRPs with EPA approval
7. Treatment of collected groundwater appears unnecessary to achieve remediation standards for the contaminants identified in the Consent Decree, except for iron and manganese	Develop long-term monitoring approach that provides the data needed to track changes in water quality and demonstrate ongoing protectiveness of the remedy after treatment discontinued; propose point of compliance for monitoring offsite groundwater quality. Submit to EPA for review and approval. Evaluate proposal to discontinue groundwater collection and treatment systems, in accordance with Consent Decree. requirements.	Will be addressed in the revised monitoring program implemented in the Fall of 2002.	PRPs with EPA approval